CONSERVATION COMMISSION
FY 2004 Report of Accomplishments
Professional Engineering Services Grants Program

Bill Language - Summary

- *The purpose of the Professional Engineering Services Grants Program is to enable conservation districts to hire Professional Engineers so that they may provide engineering services to private landowners, and engineering oversight to conservation district technicians.*

Source of Funding

- *$1.5 million for the 2003-05 Biennium from the Water Quality Account*

Distribution of 2003-05 Professional Engineering Services Grants

- *Professional Engineering Task Force met in May 2003 to develop proposed policies for the 2003-05 Professional Engineering Services Grants Program. Policies were approved by the Conservation Commission at the May 15, 2003 meeting.*
- *Conservation districts cluster together for the purposes of the Professional Engineering Grants Program.*
- *For the 2003-05 Biennium, nine clusters have formed to service the state's 48 conservation district engineering needs.*
- *Each cluster is receiving a grant in the amount of $161,666.*
- *Professional Engineering Services Grants are available only to conservation districts that demonstrate program and money management ability by meeting the Management Standards adopted by the Conservation Commission.*
- *Grant Budgets:*

Technical Assistance to Landowners	$1,280,063
District Grant Administration	$174,937
Commission Program Administration (½ FTE)	$45,000
Total	$1,500,000

Rollup of 9 Clusters' Accomplishments *(07/01/03 through 6/30/04)*

Total number of landowners to which engineering assistance was provided	484
Total number of cooperators who implemented BMPs	156
Total number of BMPs implemented	282
Total number small farm BMPs completed	65
Total number habitat restoration BMPs completed	79
Total number AFO/CAFO BMPs completed	69
Total number irrigation improvement BMPs completed	56
Total number non point water quality improvement BMPs completed	13
As a result of the BMPs completed, total number acres that will no longer contribute to surface or groundwater pollution	10,313.65 Acres
As a result of the BMPs completed, total number of stream miles protected, enhanced, or restored	68.25 Miles
Total grant amount spent	$689,974
Amount of other funding leveraged with this funding	$1,315,230

Individual Engineering Cluster FY2004 Accomplishments

- Central Klickitat Conservation District (Administering District for the following cluster of districts: Central Klickitat, Benton, North Yakima, Eastern Klickitat and Underwood)
  - *Our cluster engineer provided engineering design for 5 districts in this grant cycle. Breakdown is as follows:*
    - *Central Klickitat CD – provided field investigations for repairs of a wildlife reservoir for Anderson; made preliminary site visits to plan correction for streambank erosion with hazard to City of Goldendale's water supply pipeline and to Singing Bridge footings; provided construction oversight for Enderby Channel design previously prepared; provided preliminary design and cost estimate for correction of drainage to enhance water management and to provide improved flow from spring to creek, to correct water temperature impairments; Made surveys, design and cost estimate for correction of bank erosion and to enhance habitat with rock-vanes, rearing/refuge pools and stream shading; made surveys, design and cost estimate and provided construction oversight for two reservoirs with significant leakage; made surveys, design and cost estimate and provided construction oversight for repairs following flows; made surveys and design layout for three center pivot irrigation systems to provide water conservation and improved water quality; made surveys and design for improvements to sediment pond.*
    - *North Yakima CD – made field surveys and engineering investigations to correct salmoid passage; made field surveys and engineering review to improve irrigation return flow to wetland area, designed pipeline and energy dissipations system; made preliminary site review for fish habitat and fish screen to improve habitat conditions; made site review, outlined engineering surveys and made hydrologic and hydraulic analyses to replace existing irrigation diversion on the Yakima River, provided preliminary design report; made site visits and surveys were made, design concepts were provided, construction and permit drawings were prepared, final drafting of plans and preparation of specification is ongoing for the Upper Lust Fish Passage.*
    - *Eastern Klickitat CD – made preliminary site visit for wastewater disposal pond and infiltration system; reviewed design for pipeline to assist with reduced capacity maintenance problem; made site visit, field survey and prepared design for improved channel and culvert crossing of channel to improve water quality and to repair past flood damage to farm access; made site visits field surveys and prepared design to address channel bank erosion and to improve water quality.*
    - *Benton CD – made site visits and preliminary design for two riverbank erosion projects; made survey, investigations and prepared design for fish ladders and fish channel; provided follow-up for permits on riverbank repair on which construction is pending.*
    - *Underwood CD – made preliminary site visits and discussed repair concepts for streambank repair with four landowners; made site visits in the Wind and Little Wind Rivers for habitat improvements, proposed planning will provide hydrologic and hydraulic analyses, including floodplain delineations to guide vegetative and other improvements for salmonid habitat.*

- Kittitas County Conservation District (Administering District for the following cluster of districts: Chelan, South Douglas, Foster Creek, and Okanogan)
  - *Kittitas CD – Design and construction of various management practices for several landowners along the Teanaway River. A BPA\Ecology grant.*
    Designed and permitted various elements of three SRF grants that were awarded to KCCD to remove fish barriers and screen irrigation diversions.
    Provided technical assistance to various project associated with the efforts of Yakima Tributary Access Habitat Program (YTAHP), a planning and implementation effort funded by BPA with the goal of opening up and improving salmonid habitat to tributaries of the Yakima River.
  - *Foster Creek CD – Surveys, design and costing for SRF grant application purposes for a sediment control and habitat improvement proposal on the East Foster Creek*

- *Okanogan CD – Surveys, design, costing and permitting for a bank stabilization and habitat improvement project on Salmon Cr.*
  Provided preliminary design for SRF grant applications on Bonaparte Cr.
  Technical review and certification for a Irrigation Efficiency project along Salmon Cr.
- *Chelan CD – Surveys, design, costing and permitting for a bank stabilization and habitat improvement project on Mission Cr.*

- Lewis Conservation District (Administering District for the following cluster of districts: Lewis, Clark, Cowlitz Wahkiakum, Pacific, and Grays Harbor)
  - *Hired a professional engineer.*
  - *Clark CD – Design and construction of bridge to replace a cattle ford as part of a larger fencing and riparian planting project; Design and construction of log jams and other large wood bank restoration types along 1200 linear feet of Salmon Creek as part of a larger riparian planting project.*
  - *Grays Harbor CD – Design and construction of 2600 linear feet of six foot irrigation line for use for irrigation water and nutrient management.*
  - *Lewis Co CD – Design and construction of bridge to replace a cattle ford as part of a larger fencing and riparian planting project.*
  - *Lewis, Cowlitz and Wahkiakum CDs – Design and construction of a bridge and four culverts to replace fish passage barriers.*

- Mason Conservation District (Administering District for the following cluster of districts: Mason, Jefferson, Kitsap and Clallam)
  - *Mason CD – Provided engineering planning, design, and technical assistance to a large landowner in the Skokomish River Valley. The landowner suffered loss of cropland due to a major dike failure, which resulted in a complete river avulsion through his property, and also suffered cropland damage due to shifting flood patterns over a large portion of the remaining property. The engineer developed a plan to put the river avulsion area into a conservation easement and protect the remaining property with a large engineered logjam. To date, the landowner has secured a $50,000 grant for the engineered logjam construction, and Mason County has applied for a $305,900 grant to secure a conservation easement for 144.84 acres of riverfront and floodplain area on the landowner's property. Planning for additional restoration on the landowner's property is ongoing.*

    Provided engineering planning to another large landowner in the Skokomish Valley to reduce flood damage and develop a nutrient management plan to protect the Skokomish River and Hood Canal from surface water contamination by agricultural wastes. Developed a $100,000 grant proposal to build a demonstration waste storage structure that will prevent composting animal wastes from contaminating surface waters during flood events.

    Provided engineering planning, design and permitting assistance to 5 landowners to stabilize eroding stream banks with bioengineering and engineered logjam techniques.

    Provided engineering planning and designs to the South Sound Salmon Enhancement Group for replacement of 5 fish barriers with bridges or stream-simulation culverts. Three of the project locations were funded at over $30,000 each for construction, the remaining locations have project proposals submitted to the SRFB.

    Provided engineering planning and designs to the Allyn Salmon Enhancement Group for the removal of a dike from the intertidal area of Sherwood Creek in Case Inlet. This project is now partially funded, engineering assistance for permitting and construction planning continues.

    Provided engineering consultation to assist a landowner in stabilizing surface erosion and restoring slope stability on a vertical bluff overlooking Case Inlet. The design featured bioengineering techniques to both stabilize the slope and provide habitat for shore birds.

    Provided engineering consultation and design to the Skokomish Indian Tribe for the removal of saltwater dikes and restoration of over 140 acres of intertidal wetland at the mouth of the Skokomish River. The project is currently funded at $140,000 by a SRFB grant. Currently coordinating with the Tribe, Tacoma Public Utilities, and Public Utility District 1 to secure required permits and coordinate relocation and protection of high-capacity transmission lines in the project

area. The United States Army Corps of Engineers is considering taking over the project under the Puget Sound and Adjacent Waters Program. If they adopt the project, the USACOE will provide additional funding up to $315,000 and will oversee construction.

Providing engineering consultation to Mason County and the Skokomish Tribe to explore the formation of the Skokomish River Restoration Council. Initial meetings have gone well, and have focused on studying other successful restoration efforts in rivers with salt-water estuaries. Mason County has also asked the Conservation District to provide engineering consultation, working with WSDOT, for the replacement of the Purdy Creek Bridge on US Highway 101 in the Skokomish Valley.

Provided engineering consultation and design to another engineer preparing a Wetland Reserve Program grant application for the restoration of a stream and saltwater estuary. Consultation included a detailed stream sediment transport analysis, topographic surface modeling of the estuary, and stream restoration design. The design was reviewed and approved by NRCS, resulting in a $1,000,000 WRP grant for the project.

Designed animal containment/waste storage structures for two landowners.

- *Jefferson CD – Designed a deck repair to restore a failing livestock/vehicle bridge to service*

  Designed a large bank stabilization and floodplain protection project for an agricultural landowner on the Dosewallips River.

  Provided engineering review for a small stream restoration on private property.

  Conducted survey, developed topographic map, and prepared preliminary bridge designs for the restoration of Chimacum Creek through a private property with livestock areas on both sides of the stream.
- *Kitsap CD – Provided engineering designs for removal of 4 fish passage barriers on salmon-bearing streams with large culverts or bridges on private properties. All projects have been funded at over $30,000 each for construction. One project features the complete elimination of a stream crossing by constructing a new access road which will share another existing stream crossing.*

  Developing engineering design for restoration of Hazel Creek, including remediation of a perched culvert on Minard Road (County) and streambank stabilization using bioengineering techniques to protect a private residence.

  Developed engineering designs for a new livestock bridge and to replace two failed bridges (one livestock and one vehicle).

  Designed a sewer line to dispose of animal waste from the South Kitsap High School agricultural livestock building.

  Designed three drainage diversions to eliminate flooding, problem erosion, and improve water quality on streams flowing through pasture areas.

  Designed two animal waste storage structures.

  Performed inspections and prepared as-built drawings for payment for BMPs implemented by 6 landowners.

- Pierce Conservation District (Administering District for the following cluster of districts: Pierce, Thurston, King and Snohomish)
  - *Pierce CD* – Engineering work was done on five salmon recovery projects, providing matching funds for federal and state grants. All projects are highly ranked by Nisqually and Puyallup Indian tribes, and local and state salmon recovery agencies.
  - King - Designed pump station modifications and assisted in obtaining construction funding for fish passage through a pump station in an agricultural drainage district; Provided permitting and design assistance to two dairy farmers and construction assistance to one of those farmers for manure pipelines; Developed a design report for a possible new irrigation system on a nursery.
  - Thurston - Design and permit assistance was provided for two salmon stream restoration projects.

- Snohomish - Seven small farm BMP designs were completed, with two projects installed; One habitat restoration design was completed with assistance provided for obtaining permits.

- *Skagit Conservation District (Administering District for the following cluster of districts: Skagit, San Juan, Whidbey Island and Whatcom)*
  - *San Juan County CD – Completed design and obtained funding for Phase 1 of Port Stanley estuary habitat restoration project; managed on-going feasibility study of Deer Harbor estuary restoration project; designed and assisted with obtaining EQIP funding for Cook irrigation efficiency improvement project; provided technical assistance to seven other landowners for drainage, irrigation, and erosion control improvements.*
  - *Skagit CD – Technical lead on large-scale watershed characterization and feasibility studies for two Centennial Clean Water Fund grants; capital improvement planning for Skagit Drainage District No. 14; provided technical assistance to 22 other landowners or public entities for erosion control, drainage, and habitat restoration projects.*
  - *Whatcom CD – Surveying for Tenmile Creek watershed improvement program; designed fish passage improvements at Maberry farm, provided surveying and permitting assistance for Whatcom DID #7; and provided engineering assistance to two partner organizations for salmon habitat restoration.*
  - *Whidbey Island CD – Designed and obtained permits for livestock crossing at Don Lawson property; provided technical assistance to three other landowners for erosion control and habitat restoration.*
  - *Other – Served as a technical advisor to the Salmon Recovery Funding Board for the 5th Round SRFB Grant Cycle.*

- South Yakima Conservation District (Administering District for the following cluster of districts: South Yakima, Othello, Franklin, Warden, Moses Lake and Upper Grant)
  - *Moses Lake, Warden, Othello, and Upper Grant CDs- -- Provided technical assistance or design and construction oversight to:*
    - *HDPE lined 1.2 million gallon waste storage pond (1)*
    - *Storm water runoff collection basins (4)*
    - *Tailwater recovery system (2)*
    - *Working with landowner on waste management system for a new large dairy in Moses Lake CD and with a new owner on planned upgrades to a recently acquired existing dairy*
    - *(2) Stormwater runoff catch basins for heifer raising operations*
  - *Benton CD – Provided technical assistance, design, and construction oversight to a 6 million gallon waste storage pond lined with a compacted, Sodium Bentonite modified, soil liner.*
  - *Franklin CD – Provided technical assistance, design, and construction oversight to a level terrace and underground outlet intended to control pen runoff from storm events for discharging in a uncontrolled manner into a field bordered by a irrigation delivery canal.*
  - *South Yakima CD – Provided technical assistance or design and construction oversight to:*
    - *2.5 million gallon* waste storage pond lined with a compacted, Sodium Bentonite modified, soil liner, (1) ~ 8-10 million gallon waster storage pond lined with a compacted native soil liner requiring Department of Ecology Dam Safety review, planning stages of a large dairy expansion requiring construction of 2-3 new waste storage ponds
    - *(17) Irrigation system upgrades on 190 acres*
    - *Underground manure collection pit and reinforced concrete scrape alley*
    - *(2) Stormwater runoff catch basins for heifer raising operations*
    - *Planning stages of multiple below ground manure collection pits and expansion of an existing waste storage pond*

- Spokane Conservation District (Administering District for the following cluster of districts: Spokane, Ferry, Stevens, Pend Oreille and Lincoln)
  - *Ferry County CD – Completed site review and evaluation for landowner on Kettle River who is losing riparian vegetation along riverbank during high flows. Also completed site visit and met with WDFW to review and discuss culvert replacement project on South Fork San Poil River.*

- *Lincoln County CD – Completed site review and landowner discussion for bank stabilization project on Hawks Creek. Received small grant to implement project.*
- *Pend Oreille CD – Completed site survey and photo documentation for cooperative project with US Fish and Wildlife Service for habitat restoration project on Cedar Creek. Completed site survey on Bear Paw Creek to complete design for the replacement of an existing bridge. Completed site visits, agency coordination, and preliminary cost estimates for two culvert replacement projects and three irrigation diversion rehabilitation projects on Indian Creek.*
- *Spokane County CD – Completed site survey for grass waterway rebuild on ephemeral tributary to Hangman Creek. Completed site visit and agency coordination for two culvert replacement projects on California Creek. Assisted production ag staff with review and evaluation of dairy settling pond during dairy certification process.*
- *Stevens County CD – Completed site survey, design and permit application for bank stabilization project on Colville River. Completed site visit and landowner discussion for channel stabilization project on Mill Creek. Completed agency coordination meeting to determine process for streamlining permit application process for future projects.*

- .Whitman Conservation District (Administering District for the following cluster of districts: Whitman, Walla Walla, Columbia, Pomeroy, Asotin, Palouse, Palouse Rock Lake, Pine Creek and Adams)
- *Provided on-site technical assistance to 16 livestock owners, assisting to meet the Department of Ecology's water quality guidelines.*
- *Provided technical assistance to NRCS personnel to assist with EQIP and CRP practices.*
- *Adams CD – received engineering assistance to develop a stream bank protection plan for one producer within the Palouse River watershed. One animal feeding operation received engineering assistance for sediment containment construction plans.*
- *Columbia CD – received engineering assistance for assessment of conveyance performance on the 3 irrigation diversions within the City of Dayton. Also worked with steering committees from each ditch to develop diversion alternatives to the traditional gravel push-up dams constructed, on an annual bases, to insure water delivery to the ditches. Assessed 2 private irrigation ditch conveyance performance. Designed and installed 2200' of irrigation pipeline to replace an open conveyance ditch. Performed a flood hazard survey within the City of Dayton in cooperation with the US Army Corps of Engineers.*
- *Palouse CD – Passage barrier assessment on Wawawai Creek for increasing endangered steelhead habitat. Working with Whitman County, US Army Corps of Engineers and WA Fish & Wildlife to pursue funding options for culvert replacement.*
- *Palouse-Rock Lake CD - Designed 1500' of stream enhancement to improve water quality.*
- *Pomeroy CD – Survey, planning and design of 24 separate livestock watering systems funded under the CREP and CCRP programs in cooperation with NRCS personnel. Also conducted three irrigation efficiency studies on Pataha Creek.*
- *Whitman CD – Designed and installed components of a water quality improvement plan for 2 livestock operations.*

Washington Conservation Districts ~
Assisting Land Managers with
Their Conservation Choices